Notes on Indo-Pacific Scleractinian Corals
Parts I and II

Part I. *Oryzotrochus,* a New Genus of Turbinolian Coral

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In 1954 the writer spent a few days studying part of the coral collections of the Australian Museum. Among much undetermined material was a lot consisting of two species of very small turbinolian corals from a dredge haul (source unknown) made at the northern end of the Great Barrier Reef. One species was *Holcotrochus scriptus* Dennant 1902, a most peculiar form previously recorded only from the Lower Miocene and Pliocene of South Australia and from depths of 38–185 meters off South Australia. It was represented by some 20 individuals, 1 of which is illustrated in Figures 6 and 7. The other species, represented by 100 specimens, mostly more or less damaged, proved to be a new turbinolian genus, here called *Oryzotrochus* in allusion to its resemblance to a rice grain.

Special thanks are due to F. J. McNeill of the Australian Museum for permission to retain several specimens for description.

Family CARYOPHYLLIIDAE

Subfamily *TURBINOLIINAE*

Oryzotrochus gen. nov.

Small, solitary, free, conical corals. Wall imperforate, externally costate with prominent, high, smooth costae. Septa exsert, smooth margined, lightly granulated laterally. Pali absent. Columella small and styliform.

This genus is obviously very closely allied to the well-known Tertiary (Eoc.-Mioc.) genus *Turbinolia*,[2] from which it is distinguished only by the absence of mural perforations or external intercostal pits. The more apparent differences from other conical turbinolians are brought out in the following artificial key.

A. Wall perforate or with deep intercostal pits:
  1. Pali absent:
    a. Columella spongy ..... **Bothrophoria** Felix (U. Cret.)
    b. Columella styliform:
      aa. Costae smooth ..... **Turbinolia** Lamarck (Eoc.-Mioc.)
      bb. Costae hispid ..... **Batotrochus** Wells (Rec.)
  2. Pali present:
    a. 1 crown of 6 before second cycle; costae smooth ..... **Conocyathus** d'Orbigny (Eoc.-Rec.)
    b. Pali weakly developed; costae hispid ..... **Trematotrochus** Tenison-Woods (Olig.-Rec.)

B. Wall imperforate:
  1. Paliform lobes absent ..... **Oryzotrochus** n.g. (Rec.)
  2. Paliform lobes present ..... **Notocyathus** Tenison-Woods (Eoc.-Rec.)

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[2] *Turbinolia australiensis* Gardiner 1939 (*Discovery Reports*, vol. 18, p. 332, pl. 21, figs. 1, 2), from Port Jackson, N. S. Wales, is *Conocyathus zelandiae* Duncan 1876.

Type species: *Oryzotrochus stephensoni* n. sp.

Oryzotrochus stephensoni sp. nov.

Figs. 1–5

With the characters of the genus as diagnosed above. Septa 12 in number, in two cycles, thin, upper margins evenly arched and equally exsert over the wall and dropping steeply to level of the columella about halfway between wall and axis. Septa generally all extending to and fusing with the columella, but secondaries in one or two systems may join primaries short of the columella. Costae corresponding to all septa, equal, high, smooth-margined, separated by relatively broad and flat interspaces. An irregular row of very small buttresslike expansions on each side of each costa at junction with the wall. Primary costae distinct to the base; secondary costae arising just short of the base. Columella a slender style elevated about to height of exsert septal margins.

Dimensions

	HEIGHT	CALICULAR DIAMETER	
Holotype	3.5 mm.	1.7	(Figs. 3, 4)
Paratype	3.0	1.5	(Fig. 5)
Paratype	3.3	1.6	(Fig. 1)
Paratype	2.4	1.5	(Fig. 2)

Named for W. Stephenson, Professor of Zoology, University of Queensland.

Holotype and figured paratypes to be deposited in the U. S. National Museum. Remaining paratypes are in the Australian Museum.

Locality

Murray Islands (9°55′S., 144°02′E.), near northern end of Great Barrier Reef, Queensland, 9–15 meters.

Part II. A New Species of *Turbinaria* from the Great Barrier Reef

AT LEAST 350 species representing 57 genera of reef-building scleractinian corals are now known from the Great Barrier Reef area (Wells, 1955: 21). It would seem ungracious to add a new species to this burdensome total, especially to a genus with 34 species already reported from this region, many of them of doubtful validity, but the form described below is so distinct that it cannot be referred to any known species of *Turbinaria*.

Family DENDROPHYLLIIDAE

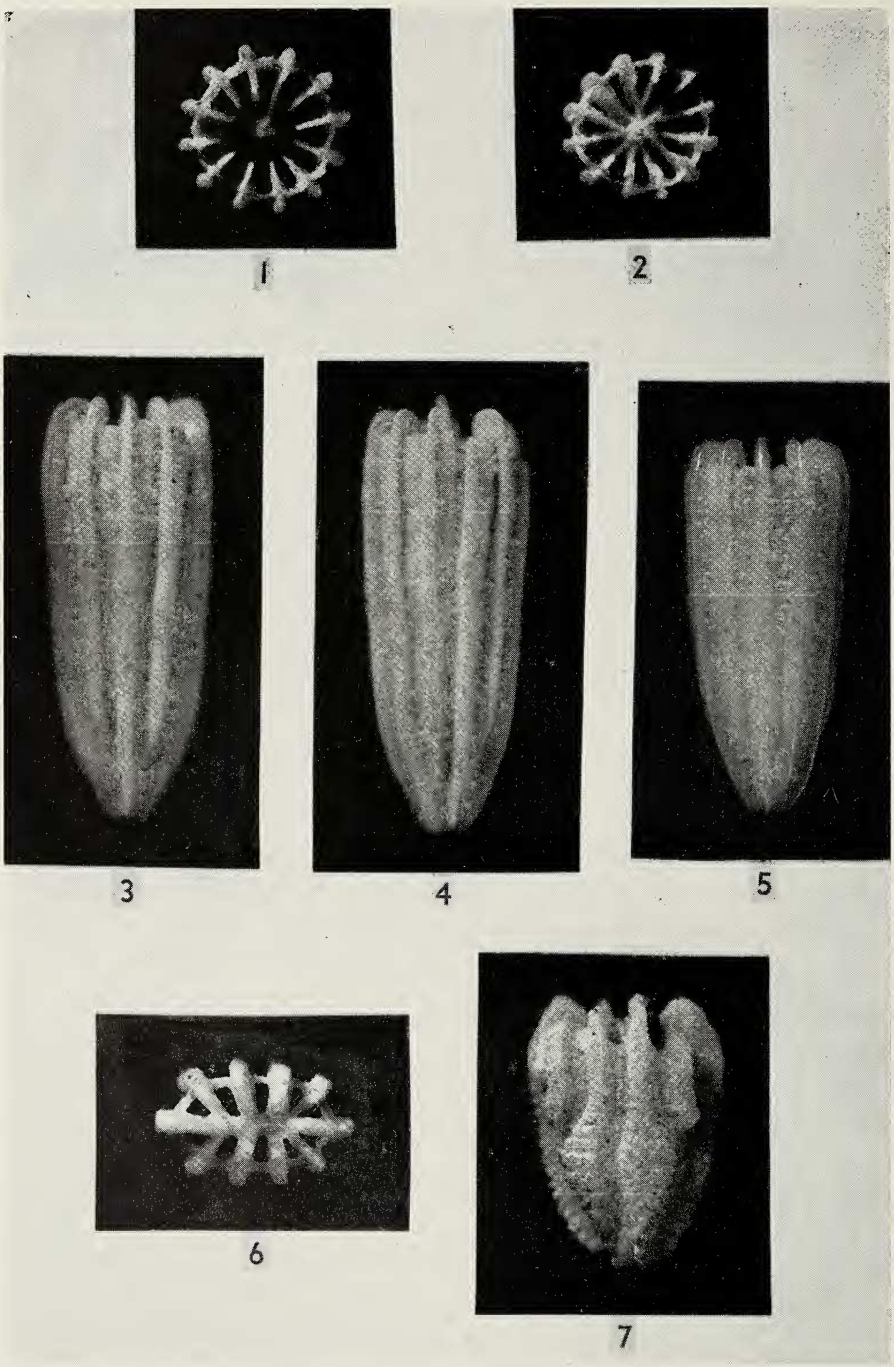
Genus TURBINARIA Oken 1815

Turbinaria heronensis sp. nov.

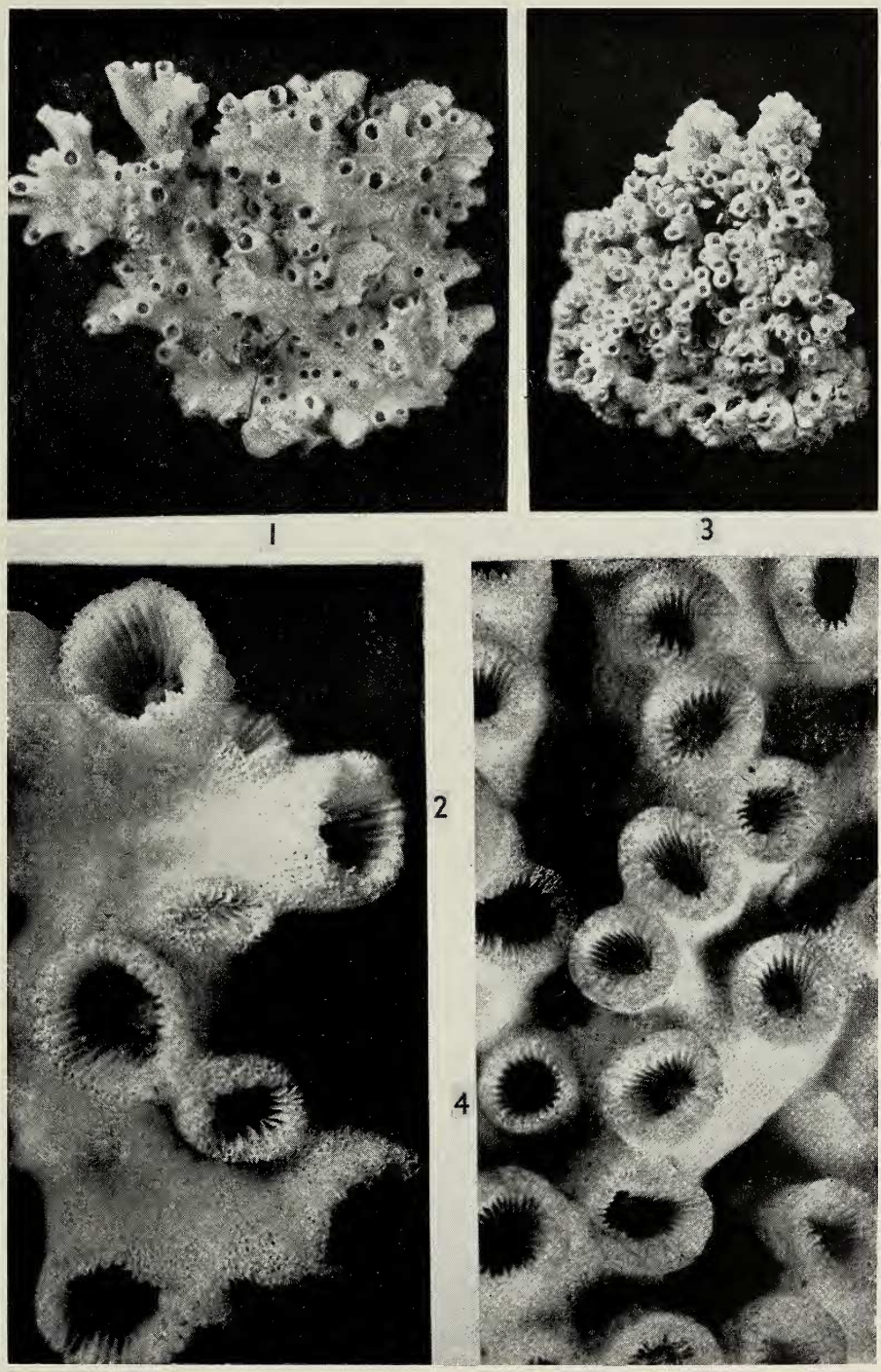
Figs. 1–4

Corallum bushy, to 20 cm. in height, formed by erect branches arising from a small, encrusting base. Corallites tending to develop irregularly on opposite sides of flattened and twisted branches, new extratentacular buds appearing in the plane of the branches between the previously formed and the next previously formed corallites. Corallites cylindrical, rarely more than 10 mm. long without buds, averaging 4 mm. in diameter. Wall spongy. Calices deep (3 mm.), circular, averaging 3 mm. in internal diameter. Septa thick peripherally in the wall, thin axially, upper margins dropping abruptly to the level of the columella, 36 to 40 in number, irregularly arranged, with 24 to 30 extending to the columella, the remainder fusing to lower cycles of septa. Columella a deep, chicoraceous, trabecular column about half the internal diameter of the corallites. Coenosteum and exterior of free parts of corallites very compact but porous, the surface appearing smooth, but very finely vermiculo-echinulate.

This species is readily distinguished from practically all other known recent species of



FIGS. 1–5. *Oryzotrochus stephensoni* n. gen., n. sp. 1, 2, Calicular aspect of two paratypes. 3, 4, Lateral aspects of holotype. 5, Lateral aspect of paratype. 6, 7, *Holcotrochus scriptus* Dennant. Calicular and lateral aspects. (All figures 15×.)



FIGS. 1, 2. *Turbinaria heronensis* n. sp. 1, Lateral aspect of holotype corallum, × 0.4. 2, Calices of same, × 4. 3, 4. *T. heronensis*. 3, Calicular aspect of rough-water facies (paratype), × 0.4. 4, Calices of same, × 4.

Turbinaria by its subramose growth form. The growth form in *Turbinaria* is characteristically crateriform to foliate, with barely protuberant corallites. The only other subramose species is *T. ramosa* Yabe and Sugiyama (1941, p. 89, pl. 100, figs. 2, 2a, 2b) from Kyushu, Japan, but in this species the corallites taper slightly toward the calice, the calices are slightly smaller (2.5–3 mm.) with only 14 to 16 thick, wedge-shaped septa, and the columella is sublamellar. The most significant difference lies in the smaller number of septa in the Japanese coral. There is a slight resemblance to the allied genus *Duncanopsammia* in the calicular characters and even less in the mode of growth.

The typically loosely ramose form (Fig. 1) of *T. heronensis* grows in relatively sheltered sites amongst other corals on reef flats. Stunted, compact, fasciculate colonies (Fig. 3) are occasionally found in rough-water environments near reef margins. The polyps are an unpleasant sulphur yellow, set in yellow-brown coenosarc.

A number of specimens of this coral have been seen in collections from the Great Barrier Reef, but very few had definite localities. The living specimens were collected by the writer in 1954 at Heron Island, Queensland. Holotype and figured paratype are to be deposited in the U. S. National Museum.

Localities

Great Barrier Reef, Queensland; windward reef flat, Heron Island (23° 25′ S.), Capricorn Group (holotype); windward reef margin, Heron Island (paratype: rough-water facies); Low Isles (16° 25′ S.) (Australian Museum): South Molle Island (20° 15′ S.), Whitsunday Group (in private collection at S. Molle); "East of Port Curtis" (probably from Capricorn or Bunker Group, 23° 30′ S.) (Australian Museum No. 4955).

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